

PFF 1644

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/267,719B

DATE: 02/22/2001
TIME: 10:32:00

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MAR 01 2001

P.S. TECH CENTER 1600/2900

ENTERED

Input Set : A:\Hs110pl.app
Output Set: N:\CRF3\02222001\I267719B.raw

3 <110> APPLICANT: Burks Jr., A. Wesley
4 Helm, Ricki M.
5 Cockrell, Gael
6 Bannon, Gary A.
7 Stanley, J. Steven
8 Shin, David S.
9 Compadre, Cesar M.
10 Huang, Shau-Ku
11 Maleki, Soheila J.
12 Kopper, Randall A.
14 <120> TITLE OF INVENTION: Tertiary Structure of Peanut Allergen ARA H 1
16 <130> FILE REFERENCE: HS 110
18 <140> CURRENT APPLICATION NUMBER: 09/267,719B
19 <141> CURRENT FILING DATE: 1999-03-11
21 <150> PRIOR APPLICATION NUMBER: 60/077,763
22 <151> PRIOR FILING DATE: 1998-03-13
24 <160> NUMBER OF SEQ ID NOS: 13
26 <170> SOFTWARE: PatentIn Ver. 2.1
28 <210> SEQ ID NO: 1
29 <211> LENGTH: 626
30 <212> TYPE: PRT
31 <213> ORGANISM: Arachis hypogaea
33 <400> SEQUENCE: 1
34 Met Arg Gly Arg Val Ser Pro Leu Met Leu Leu Leu Gly Ile Leu Val
35 1 5 10 15
37 Leu Ala Ser Val Ser Ala Thr His Ala Lys Ser Ser Pro Tyr Gln Lys
38 20 25 30
40 Lys Thr Glu Asn Pro Cys Ala Gln Arg Cys Leu Gln Ser Cys Gln Gln
41 35 40 45
43 Glu Pro Asp Asp Leu Lys Gln Lys Ala Cys Glu Ser Arg Cys Thr Lys
44 50 55 60
46 Leu Glu Tyr Asp Pro Arg Leu Val Tyr Asp Pro Arg Gly His Thr Gly
47 65 70 75 80
49 Thr Thr Asn Gln Arg Ser Pro Pro Gly Glu Arg Thr Arg Gly Arg Gln
50 85 90 95
52 Pro Gly Asp Tyr Asp Asp Asp Arg Arg Gln Pro Arg Arg Glu Glu Gly
53 100 105 110
55 Gly Arg Trp Gly Pro Ala Gly Pro Arg Glu Arg Glu Glu Glu Asp
56 115 120 125
58 Trp Arg Gln Pro Arg Glu Asp Trp Arg Arg Pro Ser His Gln Gln Pro
59 130 135 140
61 Arg Lys Ile Arg Pro Glu Gly Arg Glu Gly Glu Gln Glu Trp Gly Thr
62 145 150 155 160
64 Pro Gly Ser His Val Arg Glu Glu Thr Ser Arg Asn Asn Pro Phe Tyr
65 165 170 175
67 Phe Pro Ser Arg Arg Phe Ser Thr Arg Tyr Gly Asn Gln Asn Gly Arg
68 180 185 190

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Input Set : A:\Hs110p1.app

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70 Ile Arg Val Leu Gln Arg Phe Asp Gln Arg Ser Arg Gln Phe Gln Asn
 71 195 200 205
 73 Leu Gln Asn His Arg Ile Val Gln Ile Glu Ala Lys Pro Asn Thr Leu
 74 210 215 220
 76 Val Leu Pro Lys His Ala Asp Ala Asp Asn Ile Leu Val Ile Gln Gln
 77 225 230 235 240
 79 Gly Gln Ala Thr Val Thr Val Ala Asn Gly Asn Asn Arg Lys Ser Phe
 80 245 250 255
 82 Asn Leu Asp Glu Gly His Ala Leu Arg Ile Pro Ser Gly Phe Ile Ser
 83 260 265 270
 85 Tyr Ile Leu Asn Arg His Asp Asn Gln Asn Leu Arg Val Ala Lys Ile
 86 275 280 285
 88 Ser Met Pro Val Asn Thr Pro Gly Gln Phe Glu Asp Phe Phe Pro Ala
 89 290 295 300
 91 Ser Ser Arg Asp Gln Ser Ser Tyr Leu Gln Gly Phe Ser Arg Asn Thr
 92 305 310 315 320
 94 Leu Glu Ala Ala Phe Asn Ala Glu Phe Asn Glu Ile Arg Arg Val Leu
 95 325 330 335
 97 Leu Glu Glu Asn Ala Gly Gly Glu Gln Glu Glu Arg Gly Gln Arg Arg
 98 340 345 350
 100 Trp Ser Thr Arg Ser Ser Glu Asn Asn Glu Gly Val Ile Val Lys Val
 101 355 360 365
 103 Ser Lys Glu His Val Glu Glu Leu Thr Lys His Ala Lys Ser Val Ser
 104 370 375 380
 106 Lys Lys Gly Ser Glu Glu Glu Gly Asp Ile Thr Asn Pro Ile Asn Leu
 107 385 390 395 400
 109 Arg Glu Gly Glu Pro Asp Leu Ser Asn Asn Phe Gly Lys Leu Phe Glu
 110 405 410 415
 112 Val Lys Pro Asp Lys Lys Asn Pro Gln Leu Gln Asp Leu Asp Met Met
 113 420 425 430
 115 Leu Thr Cys Val Glu Ile Lys Glu Gly Ala Leu Met Leu Pro His Phe
 116 435 440 445
 118 Asn Ser Lys Ala Met Val Ile Val Val Val Asn Lys Gly Thr Gly Asn
 119 450 455 460
 121 Leu Glu Leu Val Ala Val Arg Lys Glu Gln Gln Arg Gly Arg Arg
 122 465 470 475 480
 124 Glu Glu Glu Asp Glu Asp Glu Glu Glu Gly Ser Asn Arg Glu
 125 485 490 495
 127 Val Arg Arg Tyr Thr Ala Arg Leu Lys Glu Gly Asp Val Phe Ile Met
 128 500 505 510
 130 Pro Ala Ala His Pro Val Ala Ile Asn Ala Ser Ser Glu Leu His Leu
 131 515 520 525
 133 Leu Gly Phe Gly Ile Asn Ala Glu Asn Asn His Arg Ile Phe Leu Ala
 134 530 535 540
 136 Gly Asp Lys Asp Asn Val Ile Asp Gln Ile Glu Lys Gln Ala Lys Asp
 137 545 550 555 560
 139 Leu Ala Phe Pro Gly Ser Gly Glu Gln Val Glu Lys Leu Ile Lys Asn
 140 565 570 575
 142 Gln Lys Glu Ser His Phe Val Ser Ala Arg Pro Gln Ser Gln

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Input Set : A:\Hs110p1.app
Output Set: N:\CRF3\02222001\I267719B.raw

143 580 585 590
145 Ser Pro Ser Ser Pro Glu Lys Glu Ser Pro Glu Lys Glu Asp Gln Glu
146 595 600 605
148 Glu Glu Asn Gln Gly Gly Lys Gly Pro Leu Leu Ser Ile Leu Lys Ala
149 610 615 620
151 Phe Asn
152 625
155 <210> SEQ ID NO: 2
156 <211> LENGTH: 371
157 <212> TYPE: PRT
158 <213> ORGANISM: Phaseolus vulgaris
160 <400> SEQUENCE: 2
161 Asp Asn Pro Phe Tyr Phe Asn Ser Asp Asn Ser Trp Asn Thr Leu Phe
162 1 5 10 15
164 Lys Asn Gln Tyr Gly His Ile Arg Val Leu Gln Arg Phe Asp Gln Gln
165 20 25 30
167 Ser Lys Arg Leu Gln Asn Leu Glu Asp Tyr Arg Leu Val Glu Phe Arg
168 35 40 45
170 Ser Lys Pro Glu Thr Leu Leu Leu Pro Gln Gln Ala Asp Ala Glu Leu
171 50 55 60
173 Leu Leu Val Val Arg Ser Gly Ser Ala Ile Leu Val Leu Val Lys Pro
174 65 70 75 80
176 Asp Asp Arg Arg Glu Tyr Phe Phe Leu Thr Ser Asp Asn Pro Ile Phe
177 85 90 95
179 Ser Asp His Gln Lys Ile Pro Ala Gly Thr Ile Phe Tyr Leu Val Asn
180 100 105 110
182 Pro Asp Pro Lys Glu Asp Leu Arg Ile Ile Gln Leu Ala Met Pro Val
183 115 120 125
185 Asn Asn Pro Gln Ile His Glu Phe Phe Leu Ser Ser Thr Glu Ala Gln
186 130 135 140
188 Gln Ser Tyr Leu Gln Glu Phe Ser Lys His Ile Leu Glu Ala Ser Phe
189 145 150 155 160
191 Asn Ser Lys Phe Glu Glu Ile Asn Arg Val Leu Phe Glu Glu Gly
192 165 170 175
194 Gln Gln Glu Gly Val Ile Val Asn Ile Asp Ser Glu Gln Ile Lys Glu
195 180 185 190
197 Leu Ser Lys His Ala Lys Ser Ser Arg Lys Ser Leu Ser Lys Gln
198 195 200 205
200 Asp Asn Thr Ile Gly Asn Glu Phe Gly Asn Leu Thr Glu Arg Thr Asp
201 210 215 220
203 Asn Ser Leu Asn Val Leu Ile Ser Ser Ile Glu Met Glu Glu Gly Ala
204 225 230 235 240
206 Leu Phe Val Pro His Tyr Tyr Ser Lys Ala Ile Val Ile Leu Val Val
207 245 250 255
209 Asn Glu Gly Glu Ala His Val Glu Leu Val Gly Pro Lys Gly Asn Lys
210 260 265 270
212 Glu Thr Leu Glu Tyr Glu Ser Tyr Arg Ala Glu Leu Ser Lys Asp Asp
213 275 280 285
215 Val Phe Val Ile Pro Ala Ala Tyr Pro Val Ala Ile Lys Ala Thr Ser

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216 290 295 300
 218 Asn Val Asn Phe Thr Gly Phe Gly Ile Asn Ala Asn Asn Asn Arg
 219 305 310 315 320
 221 Asn Leu Leu Ala Gly Lys Thr Asp Asn Val Ile Ser Ser Ile Gly Arg
 222 325 330 335
 224 Ala Leu Asp Gly Lys Asp Val Leu Gly Leu Thr Phe Ser Gly Ser Gly
 225 340 345 350
 227 Asp Glu Val Met Lys Leu Ile Asn Lys Gln Ser Gly Ser Tyr Phe Val
 228 355 360 365
 230 Asp Ala His
 231 370
 234 <210> SEQ ID NO: 3
 235 <211> LENGTH: 510
 236 <212> TYPE: PRT
 237 <213> ORGANISM: Arachis hypogaea
 239 <400> SEQUENCE: 3
 240 Ile Ser Phe Arg Gln Gln Pro Glu Glu Asn Ala Cys Gln Phe Gln Arg
 241 1 5 10 15
 243 Leu Asn Ala Gln Arg Pro Asp Asn Arg Ile Glu Ser Glu Gly Gly Tyr
 244 20 25 30
 246 Ile Glu Thr Trp Asn Pro Asn Asn Gln Glu Phe Glu Cys Ala Gly Val
 247 35 40 45
 249 Ala Leu Ser Arg Leu Val Leu Arg Arg Asn Ala Leu Arg Arg Pro Phe
 250 50 55 60
 252 Tyr Ser Asn Ala Pro Gln Glu Ile Phe Ile Gln Gln Gly Arg Gly Tyr
 253 65 70 75 80
 255 Phe Gly Leu Ile Phe Pro Gly Cys Pro Arg His Tyr Glu Glu Pro His
 256 85 90 95
 258 Thr Gln Gly Arg Arg Ser Gln Ser Gln Arg Pro Pro Arg Arg Leu Gln
 259 100 105 110
 261 Gly Glu Asp Gln Ser Gln Gln Arg Asp Ser His Gln Lys Val His
 262 115 120 125
 264 Arg Phe Asp Glu Gly Asp Leu Ile Ala Val Pro Thr Gly Val Ala Phe
 265 130 135 140
 267 Trp Leu Tyr Asn Asp His Asp Thr Asp Val Val Ala Val Ser Leu Thr
 268 145 150 155 160
 270 Asp Thr Asn Asn Asp Asn Gln Leu Asp Gln Phe Pro Arg Arg Phe
 271 165 170 175
 273 Asn Leu Ala Gly Asn Thr Glu Gln Glu Phe Leu Arg Tyr Gln Gln Gln
 274 180 185 190
 276 Ser Arg Gln Ser Arg Arg Arg Ser Leu Pro Tyr Ser Pro Tyr Ser Pro
 277 195 200 205
 279 Gln Ser Gln Pro Arg Gln Glu Glu Arg Glu Phe Ser Pro Arg Gly Gln
 280 210 215 220
 282 His Ser Arg Arg Glu Arg Ala Gly Gln Glu Glu Glu Asn Glu Gly Gly
 283 225 230 235 240
 285 Asn Ile Phe Ser Gly Phe Thr Pro Glu Phe Leu Glu Gln Ala Phe Gln
 286 245 250 255
 288 Val Asp Asp Arg Gln Ile Val Gln Asn Leu Arg Gly Glu Thr Glu Ser

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Input Set : A:\Hs110p1.app

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289	260	265	270	
291	Glu	Glu	Gly Ala Ile Val Thr Val Arg Gly Gly Leu Arg Ile Leu	
292	275	280	285	
294	Ser	Pro	Asp Arg Lys Arg Arg Ala Asp Glu Glu Glu Glu Tyr Asp Glu	
295	290	295	300	
297	Asp	Glu	Tyr Glu Tyr Asp Glu Glu Asp Arg Arg Arg Gly Arg Gly Ser	
298	305	310	315	320
300	Arg	Gly	Arg Gly Asn Gly Ile Glu Glu Thr Ile Cys Thr Ala Ser Ala	
301	325	330	335	
303	Lys	Lys	Asn Ile Gly Arg Asn Arg Ser Pro Asp Ile Tyr Asn Pro Gln	
304	340	345	350	
306	Ala	Gly	Ser Leu Lys Thr Ala Asn Asp Leu Asn Leu Leu Ile Leu Arg	
307	355	360	365	
309	Trp	Leu	Gly Leu Ser Ala Glu Tyr Gly Asn Leu Tyr Arg Asn Ala Leu	
310	370	375	380	
312	Phe	Val	Ala His Tyr Asn Thr Asn Ala His Ser Ile Ile Tyr Arg Leu	
313	385	390	395	400
315	Arg	Gly	Arg Ala His Val Gln Val Val Asp Ser Asn Gly Asn Arg Val	
316	405	410	415	
318	Tyr	Asp	Glu Leu Gln Glu Gly His Val Leu Val Val Pro Gln Asn	
319	420	425	430	
321	Phe	Ala	Val Ala Gly Lys Ser Gln Ser Glu Asn Phe Glu Tyr Val Ala	
322	435	440	445	
324	Phe	Lys	Thr Asp Ser Arg Pro Ser Ile Ala Asn Leu Ala Gly Glu Asn	
325	450	455	460	
327	Ser	Val	Ile Asp Asn Leu Pro Glu Glu Val Val Ala Asn Ser Tyr Gly	
328	465	470	475	480
330	Leu	Gln	Arg Glu Gln Ala Arg Gln Leu Lys Asn Asn Asn Pro Phe Lys	
331	485	490	495	
333	Phe	Phe	Val Pro Pro Ser Gln Gln Ser Pro Arg Ala Val Ala	
334	500	505	510	
337	<210> SEQ ID NO: 4			
338	<211> LENGTH: 473			
339	<212> TYPE: PRT			
340	<213> ORGANISM: Glycine max			
342	<400> SEQUENCE: 4			
343	Met Ala Ser Lys Val Val Ser Val Leu Val Ile Ala Met Met Leu Phe			
344	1	5	10	15
346	Ala	Met	Asn	Cys Asn Cys Thr Ser Val Gly His Met Pro Ser Thr Lys
347	20	25	30	
349	Glu	Glu	Gly His Asp Phe Gln Glu Ser Lys Ala Lys Thr Thr Gln Thr	
350	35	40	45	
352	Ala	Asn	Lys Ala Met Glu Thr Gly Lys Glu Gly Gln Glu Ala Ala Glu	
353	50	55	60	
355	Ser	Trp	Thr Glu Trp Ala Lys Glu Lys Leu Ser Glu Gly Leu Gly Phe	
356	65	70	75	80
358	Lys	His	Asp Gln Glu Ser Lys Glu Ser Thr Thr Asn Lys Val Ser Asp	
359	85	90	95	
361	Tyr	Ala	Thr Asp Thr Ala Gln Lys Ser Lys Asp Tyr Ala Thr Asp Thr	

FYI:

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

VERIFICATION SUMMARY

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Input Set : A:\Hs110p1.app

Output Set: N:\CRF3\02222001\I267719B.raw

L:497 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5
L:572 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6
L:575 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6
L:678 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:7
L:681 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:7
L:914 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10